National Institute of Environmental Health Sciences

Strikes, flooding, rats, and leptospirosis in Marseille, France

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Abstract:

OBJECTIVES: The aim of this study was to examine the mechanisms by which weather conditions, the incidence of Leptospira in reservoir populations, and various socio-ecological factors are driving the emergence of leptospirosis in Marseille, France. METHODS: Over the last 30 years our laboratory has surveyed all human cases of leptospirosis in Marseille using clinical, epidemiological, serological, and molecular tools. Data for the weather conditions in Marseille were collected from the official meteorological station, and garbage management strikes were monitored through the local press. Rats were trapped in alleys near to where the patients may have acquired leptospirosis. RESULTS: Three new cases of autochthonous leptospirosis are reported. The global tendency for rainfall showed a slight increase over the period under analysis. The index case of leptospirosis occurred after a heavy rainfall with flooding. Over the last 10 years Marseille has undergone 82 days of garbage management strikes. Leptospira DNA was detected in two of 11 rats. CONCLUSIONS: The emergence of leptospirosis has become a public health problem in Marseille, and is associated with a combination of heavy rainfall and garbage collection strikes in which garbage is left on the street and thereby contributes to the expansion of the rat population on the surface.

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Resource Description

Exposure :

weather or climate related pathway by which climate change affects health

Extreme Weather Event

Extreme Weather Event: Flooding

Geographic Feature:

resource focuses on specific type of geography

Urban

Geographic Location:

resource focuses on specific location

Non-United States

Non-United States: Europe

European Region/Country: European Country

Other European Country : France

Health Impact: ☒

specification of health effect or disease related to climate change exposure

Infectious Disease

Infectious Disease: Foodborne/Waterborne Disease

Foodborne/Waterborne Disease: Leptospirosis

Population of Concern: A focus of content

Population of Concern: ☒

populations at particular risk or vulnerability to climate change impacts

Low Socioeconomic Status

Resource Type: ☒

format or standard characteristic of resource

Research Article

Timescale: ☒

time period studied

Time Scale Unspecified

Vulnerability/Impact Assessment: ☒

resource focus on process of identifying, quantifying, and prioritizing vulnerabilities in a system

A focus of content